City of Killeen

ELECTRICAL CODE (January 1, 2016)

Subdivision 1. - Code Adoption

Sec. 8-210. - Adopted.

There is hereby adopted by the city the National Electrical Code (NFPA 70), 2014 Edition, a copy of which is attached hereto and made a part of this chapter for all purposes, the same as if copied in full herein, with the exception of such sections thereof as are hereinafter deleted, modified or amended.

Secs. 8-211—8-219. - Reserved.

Subdivision 2. - Additional Local Requirements

Sec. 8-220. - General installation requirements for residential and commercial buildings and structures.

(a) All electrical construction and all materials and appliances used in connection with the installation, maintenance, and operation of electrical wiring, apparatus or equipment for the utilization of electrical energy for light, heat or power shall conform to the rules and regulations of this section, the adopted electrical code, and in harmony with the electrical service guidelines of the local electrical utility provider.

(b) Aluminum conductors—Minimum size. Aluminum or copper clad aluminum #1/0 AWG and larger conductors may be used where the conductors terminate in an approved service or service feeder panel. The conductors shall be terminated according to manufacturer's recommendations and have a coating of oxidation inhibitor applied. (REF. NEC Articles 215—Feeders, 230—Services, 338—Service Entrance Cable, and 310—Aluminum Conductor Material)

(c) Branch circuit conductors—Minimum size. No copper conductor smaller than No. 12 AWG size shall be used in any branch circuit except as follows:

  (1) Number 14 AWG conductors may be used for switch legs (dwelling units only).

  (2) Number 14 AWG for control circuits operating line voltage contractors, relay and the like; (REF. NEC Article 210-19 Conductors- minimum ampacity and size).

(d) GFCI receptacle identification. All receptacles protected by one (1) or more ground fault circuit interrupter (GFCI) devices shall be identified with the manufacturer's labels. (REF. NEC Article 210-8—GFCI Protection for Personnel.)

(e) Abandoned wiring. Whenever new wiring is replacing old wiring, the old wiring shall be completely removed where possible. Abandoned wiring that cannot be removed

shall be rendered unusable for future use before final approval shall be given for the new wiring.

(f) Additions to existing wiring. Where additions or extensions are made, and part of the existing wiring remains in use, and if defects exist in same, the existing wiring must be corrected and shall meet standards for new work.

(g) Electrical service upgrade required. The electrical service shall be upgraded on a structure when electrical power is disconnected for any of the following conditions:

(1) Dangerous or unsafe electrical hazards;

(2) Substantial damage to electrical service over fifty percent (50%);

(3) Loss of electrical power for a period of one (1) year or longer.

(h) Electrical system upgrade required (total rewire). The electrical system shall be upgraded on a structure when any of the following occur:

(1) Dangerous or unsafe electrical hazards.

(2) Substantial damage to electrical system over fifty percent (50%).

(3) Change from residential use to commercial use. For the purpose of this section, apartment dwellings are considered residential use and hotel/motel structures are considered commercial use.

(i) Service masts as supports. In addition to the requirements in the NEC, section 230-28, all service masts installed as support for service-drop conductors shall meet the following:

(1) Only service-drop conductors shall be permitted to be attached to a service mast.

(2) Service conduit extending through the roof and used for a service support shall be sealed at the roof with an approved flashing and extend a minimum of thirty of thirty-six (36) inches above the roof. Such service conduit shall be anchored just before entering the roof.

(3) A minimum size of two (2) inches rigid conduit shall be used for service mast. E.M.T. or I.M.C are not acceptable for service masts supports.

(j) Services—general. In addition to the requirements in the NEC, Section 230, all services installed shall meet the following:

(1) All entrance service conductors shall be enclosed in galvanized conduit or electrical metallic tubing. A minimum of one and one-quarter inch (1-1/4") conduit shall be used for service other than for service masts.

(2) Length of outside service wire extension beyond service weatherhead shall not be less than (1) one foot.

(3) Multiple-tenant or lease space buildings shall have only (1) electrical service meter allowed for each individual tenant space. Reconfigured tenant spaces that combine the interior, through doors or other access points, of two or more

originally separate tenant spaces in order to serve one (1) tenant exclusively shall be required to remove all but one (1) electrical service meter.

(4) Each service shall be supplied with two (2) five-eighths-inch by eight (8) feet ground rods spaced a minimum of six (6) feet apart. Other grounding methods may be used with special permission from the code official.

(k) Electrical metallic tubing installation. Electrical metallic tubing shall not be permitted for direct burial in earth or installed in or under concrete on grade or below grade. (REF. NEC Article 348-10 Uses Permitted.)

(l) Main disconnects. Service entrance conductors hereafter installed on all buildings, shall require a single main disconnect (limited to six (6) overcurrent devices) or manual shunt-trip device located outside the building or structure. When a remote shunt-trip button is installed, it shall be located on the exterior of the building or structure and shall have a visual indication that the service has been disconnected when the trip has been activated. The shunt-trip button shall be in a sturdy, exterior cabinet that can be secured with a padlock. The cabinet shall be permanently marked on the exterior, stating "shunt-trip disconnect."

Sec. 8-221. - Additional residential requirements for one and two-family dwellings, townhouses, and apartment use buildings.

(a) Heating unit conductors. Feeders and branch circuits for heating units in dwelling units shall be copper conductors.

(b) Appliance circuits and receptacles.

(1) Receptacle outlets installed in the kitchen and dining room of each dwelling shall have a maximum of three (3) duplex receptacles on each 20 amp small appliance circuit. Such receptacles shall be rated twenty (20) amps. Note: Fifteen (15) amp rated receptacles shall not be allowed on such circuits.

(2) Dedicated circuits shall be required for refrigerator, disposal, built-in microwave, washing machine, furnace, bathroom heater, trash compactor, and dishwasher.

(3) Single duty receptacle shall be required for each refrigerator, disposal, built-in microwave, washing machine, trash compactor or dishwasher.

(c) Circuit limitations. In areas other than kitchens and dining rooms, no more than eight (8) receptacle and/or lighting fixture outlets shall be connected to any one (1) circuit, whether the outlets are ceiling or wall outlets.

Sec. 8-222. - Additional commercial requirements for hotel, motel, and other non-residential use buildings or structures.

(a) Wiring requirements. Service entrance cable shall be prohibited in all nonresidential buildings and residential buildings over three (3) stories tall. In addition, all electrical wiring installed in nonresidential buildings and dwelling buildings over three (3) stories tall shall be installed with one (1) of the following methods:

(1) Electrical metallic tubing (EMT);

(2) Surface metal raceway;

(3) Electrical nonmetallic tubing (ENT) shall be allowed in walls only;

(4) Metal-clad cable (MC) shall be allowed in walls and used to connect to lighting fixtures with a maximum length of ten (10) feet;

(5) Rigid metal pipe.

(b) Receptacle requirements.

(1) Minimum of one (1) receptacle shall be required for each interior wall four (4) feet or longer of occupied space. Walls over fifteen (15) linear feet shall have receptacles spaced no greater than thirty (30) feet apart, measured horizontally around the interior walls at the floor level.

(2) Receptacle circuits and outlets for counter spaces in kitchen, break room or similar areas shall be installed in accordance with subsection 8-221(b) above.

(3) Receptacles and switches in commercial buildings shall be rated a minimum of twenty (20) ampere.

(c) Minimum building service. All nonresidential buildings shall have a minimum of a two hundred (200) ampere service.

Secs. 8-223—8-239. - Reserved.